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Ubigate iBG2016™

# TroubleShooting Manual

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The purposes of Safety Concerns are to ensure users' safety and to prevent property losses.
Please read this document carefully for proper use.

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**This manual should be read before the installation and operation, and the operator should correctly install and operate the product by using this manual.**

This manual may be changed for the system improvement, standardization and other technical reasons without prior notice.

For further information on the updated manual or have a question for the content of manual, contact the homepage below.

**Homepage: http://www.samsungen.com**

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# GENERAL USER INFORMATION

## RADIO FREQUENCY INTERFERENCE

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## FCC REQUIREMENTS

Thie equipment, the Ubigate iBG2016, complies with Part 68 of the FCC rules and the requirements adopted by the ATCA. On the top of this equipment is a label that contains, among other information, a product identifier in the format **US: A3LIS00BiBG2016**. If requested, this number must be provided to the telephone company.

### UNAUTHORIZED MODIFICATIONS

Any changes or modifications performed on this equipment that are not expressly approved in writing by SAMSUNG ELECTRONICS, CO., LTD. could cause non-compliance with the FCC rules and void the user's authority to operate the equipment.

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NOTE

Allowing this equipment to be operated in such a manner as to not provide for proper answer supervision is a violation of Part 68 of the FCC's rules.

## TELEPHONE CONNECTION REQUIREMENT

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ATCA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details.

## FCC Part 68

This equipment complies with Part 68 of the FCC rules. The FCC Part 68 label is located on the bottom chassis panel. This label contains the FCC Registration Number and Ringer Equivalence Number(REN) for this equipment. If requested, this information must be provided to your telephone company.
Connection to the telephone network should be made by using standard modular telephone jacks, type RJ-11C. The RJ-11C plug and/or jacks used must comply with the FCC Part 68 rules.

| CIRCUIT TYPE | MODULE TYPE | FACILITY INTERFACE CODE | NETWORK JACK |
|---|---|---|---|
| LOOP START LINE | FXO-4M, FXO-2M<br>T1E1-2M, T1E1-1M | 02LS2<br>04DU9.DN<br>04DU9.1KN<br>04DU9.1SN<br>04DU9.1SN(PRI) | RJ11C<br>RJ48C |
| | T1E1-4 | 04DU9.DN<br>04DU9.1KN<br>04DU9.1SN<br>04DU9.1SN(PRI) | RJ48C |
| DID LINE | FXS-4M, FXS-2M, FXS-24<br>T1E1-2M, T1E1-1M<br>T1E1-4 | 02RV2.T<br>04DU9.BN<br>04DU9.BN | RJ11C<br>RJ48C<br>RJ48C |
| E & M TIE LINE | E & M-2M, E & M-1M<br>T1E1-2M, T1E1-1M<br>T1E1-4 | TL11M<br>04DU9.BN<br>04DU9-BN | RJ45S<br>RJ48C<br>RJ48C |


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## RINGER EQUIVALENCE NUMBER

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five(5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For earlier products, the REN is separately shown on the label.

## INCIDENCE OF HARM

If this equipment, the Ubigate iBG2016, causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

## CHANGES TO TELEPHONE COMPANY EQUIPMENT OR FACILITIES

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

## SERVICE CENTER

If trouble is experienced with the Ubigate iBG2016, please contact your local office of SAMSUNG ELECTRONICS, CO., LTD. for repair or warranty information. If the trouble is causing harm to the telephone network, the telephone company may request that you remove the equipment from the network until the problem is resolved.

## FIELD REPAIRS

Only technicians certified on the Ubigate iBG2016, are authorized by SAMSUNG ELECTRONICS, CO., LTD. to perform system repairs. Certified technicians may replace modular parts of a system to repair or diagnose trouble. Defective modular parts can be returned to SAMSUNG ELECTRONICS, CO., LTD. for repair.

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# GENERAL

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

## Equipment With Direct Inward Dialing ('DID')

ALLOWING THIS EQUIPMENT TO BE OPERATED IN SUCH A MANNER AS TO NOT PROVIDE FOR PROPER ANSWER SUPERVISION IS A VIOLATION OF PART 68 OF THE FCC'S RULES

PROPER ANSWER SUPERVISION IS WHEN:

A) This equipment returns answer supervision to the Public Switched Telephone Network(PSTN) when DID calls are:

- Answered by the called station
- Answered by the attendant
- Routed to a recorded announcement that can be administered by the Customer Premises Equipment(CPE) user.
- Routed to a dial prompt

B) This equipment returns answer supervision on all DID calls forwarded to the PSTN.
Permissible exceptions are:

- A call is unanswered
- A busy tone is received
- A reorder tone is received

## Equal Access Requirements

This equipment is capable of providing users access to interstate providers of operator services through the use of access codes. Modification of this equipment by call aggregators to block access dialing codes is a violation of the Telephone Operator consumers Act of 1990.


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## Electrical Safety Advisory

Parties responsible for equipment requiring AC power should consider including an advisory notice in their customer information suggesting the customer use a surge arrestor. Telephone companies report that electrical surges, typically lightning transients, are very destructive to customer terminal equipment connected to AC power sources. This has been identified as a major nationwide problem.

# MUSIC ON HOLD WARNING

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# DISA WARNING

Lines that are used for the Direct Inward System Access feature must have the disconnect supervision options provided by the telephone company.

As it is impossible to control who may access your DISA line it is suggested that you do not turn this feature on unless you intend to use it. If you do use this feature, it is good practice to frequently change pass codes and periodically review your telephone records for unauthorized use.

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# SAFETY WARNING

High touch current earth connection essential before making telecommunication network connection.

Energy Hazard-careful treatment is needed.

Every wire for communication should be larger than 26 AWG.

Double pole/neutral fusing.

# UNDERWRITERS LABORATORIES

The Ubigate iBG2016 system has been tested to comply with safety standards in the United States and Canada. This system is listed with Underwriters Laboratories. The cUL Mark is separately shown on the label.
The following statement from Underwriters Labs applies to the Ubigate iBG2016 System:

1. Separation of TNV and SELV - Pluggable A: ‘The separate protective earthing terminal provided on this product shall be permanently connected to earth.’(Instruction)

2. Separation of TNV and SELV - Pluggable B: ‘Disconnect TNV circuit connector(s) before disconnecting power.’(Instruction)

3. Warning to service personnel: ‘CAUTION: Double pole/neutral fusing’


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4. Telephone line cord: ‘CAUTION: To reduce the risk of fire, use only No. 26 AWG or larger(e.g., 24 AWG) UL Listed or CSA Certified Telecommunication Line Cord’

5. Leakage currents due to ringing voltage - Earthing installation instructions: ‘1.A supplementary equipment earthing conductor is to be installed between the product or system and earth, that is, in addition to the equipment earthing conductor in the power supply cord. 2.The supplementary equipment earthing conductor may not be smaller in size than the unearthed branch-circuit supply conductors. The equipment earthing conductor is to be connected to the product at the terminal provided, and connected to earth in a manner that ill retain the earth connection when the power supply cord is unplugged. The connection to earth of the supplementary earthing conductor shall be in compliance with the appropriate rules for terminating bonding jumpers in Part K of Article 250 of the National Electrical Code, ANSI/NFPA 70 and Article 10 of Part 1 of the Canadian Electrical Code, Part 1, C22.1. Termination of the supplementary earthing conductor is permitted to be made to building steel, to a metal electrical raceway system, or to any earthed item that is permanently and reliably connected to the electrical service equipment earthed. 3.Bare, covered, or insulated earthing conductors are acceptable.
A covered or insulated conductor must have a continuous outer finish that is either green, or green with one or more yellow stripes.’

6. Safety Instructions - Rack Mount ‘Rack Mount Instructions -
The following or similar rack-mount instructions are included with the installation instructions:

A) Elevated Operating Ambient - If installed in a closed or multi-unitrack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature(Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

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C) Mechanical Loading - Mounting of the equipment in the rack should be such that a hazardous condition is not achieved due to uneven mechanical loading.

D) Circuit Overloading - Consideration should be given to the connection of the equipment to the supply circuit and the effect that overloading of the circuits might have on overcurrent protection and supply wiring. Appropriate consideration of equipment nameplate ratings should be used when addressing this concern.

E) Reliable Earthing - Reliable earthing of rack-mounted equipment should be maintained. Particular attention should be given to supply connections other than direct connections to the branch circuit(e.g., use of power strips).'


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# INTRODUCTION

## Purpose

Ubigate iBG2016™ Trouble Shooting Manual describes the troubleshooting procedures for the faults that can occur on iBG2016.

## Conventions

The following types of paragraphs contain special information that must be carefully read and thoroughly understood. Such information may or may not be enclosed in a rectangular box, separating it from the main text, but is always preceded by an icon and/or a bold title.

**NOTE**

Indicates additional information as a reference.

## Console Screen Output

- The lined box with '`Courier New`' font will be used to distinguish between the main content and console output screen text.
- '**`Bold Courier New`**' font will indicate the value entered by the operator on the console screen.

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# Reference

**Ubigate iBG2016 System Description**

**Ubigate iBG2016 Installation Manual**

**Ubigate iBG2016 Configuration Guide**

**Ubigate iBG2016 Command Reference**

**Ubigate iBG2016 Message Reference**

**Ubigate iBG2016 Quick Start Guide**

**Ubigate iBG2016 iBG-DM User Guide**

**Ubigate ISM User Guide**

**Ubigate iPX User Guide**

# Contacting Technical Support

For questions regarding the product and the content of this document
Please visit:

http://www.samsungen.com

# Obtaining Publications and Additional Information

The Ubigate iBG2016 documentation set, and additional literature is available at:

http://www.samsungen.com

# Revision History

| EDITION | DATE OF ISSUE | REMARKS |
|---|---|---|
| 00 | 12. 2006. | First Draft |


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# TroubleShooting Manual

## Max call limit alarm

It is an alarm created when a certain percentage is reached on the basis of pre-configured max call and max call threshold alarm.

### Symptoms

On the iBG2016 system, following event will be occurred.

```
#Feb 09 11:57:45 critical     EVENT      Exceeding a major
threshold of the system max call limit   RAISE
#Feb 09 11:58:28 informational EVENT     Exceeding a major
threshold of the system max call limit   CLEAR
#Feb 09 11:59:23 error        EVENT      Exceeding a minor
threshold of the system max call limit   RAISE
 #Feb 09 11:59:25 informational EVENT    Exceeding a minor
threshold of the system max call limit   CLEAR
```

### Possible Causes

- Current call count is reached on pre-configured threshold alarm value.
  - Minor threshold limitation value = system wide max calls * minor threshold alarm max-call / 100
  - Major threshold limitation value = system wide max calls * major threshold alarm max-call / 100

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# Troubleshooting

1. Change threshold alarm max-call value.

2. Change system-wide max-call count.(default max-call count is configured to system maximum value)

To change theshold alarm max-call value, use call-admission threshold alarm max-call CLI command in global configuration command mode. To check current value use show running-config command.

call-admission threshold alarm max-call min <value> maj <value>
no call-admission threshold alarm max-call

min <value>: Is the percentage of current call count against max call count that minor alarm would be created. Default value is 70. Range is 1~99.
maj <value>: Is the percentage of current call count against max call count that major alarm would be created. Default value is 80. Range is 1~99.

To change max call used as the basis, use ‘call-admission max-calls’ command in global configuration command mode. To check current value use show running-config command.

call-admission max-calls <value>

value: Designates max calls that is admitted and a number of 1~20,000 can be used.


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# Max DSP limit alarm

It is an alarm created when a certain percentage is reached on the basis of configured max DSP channel usage threshold.

## Symptoms

On the iBG2016 system, following event will be occurred.

```
#Feb 09 12:00:00 critical     EVENT     Exceeding a major
threshold of the DSP channel capacity limit  RAISE
 #Feb 09 12:00:03 informational EVENT     Exceeding a major
threshold of the DSP channel capacity limit  CLEAR
#Feb 09 12:00:12 error        EVENT     Exceeding a minor
threshold of the DSP channel capacity limit  RAISE
 #Feb 09 12:00:15 informational EVENT     Exceeding a minor
threshold of the DSP channel capacity limit  CLEAR
```

## Possible Causes

Current DSP usage is reached on pre-configured threshold alarm value.

## Troubleshooting

1. Change threshold alarm max-dsp value.

2. Change your DSP card have high performance

To change theshold alarm max-dsp value, use call-admission threshold alarm max-dsp CLI command in global configuration command mode. To check current value use show running-config command.

call-admission threshold alarm max-dsp min <value> maj <value>
no call-admission threshold alarm max-dsp

min <value>: Is the percentage of current used dsp channel against max dsp channel that minor alarm would be created. Default value is 70. Range is 1~99.
maj <value>: Is the percentage of current used dsp channel against max dsp channel that major alarm would be created. Default value is 80. Range is 1~99.

It is impossible to set up the value of max DSP channel used as the basis, the system decides automatically according to the type of the mounted DSP card.

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# SIP entity connection fail alarm

It is an alarm created when register is failed after periodically trying registing gateway using SIP REGISTER message in call-server.

## Symptoms

On the iBG2016 system, following event will be occurred.

```
#Feb 09 12:00:20 critical       EVENT   Connection fails
between system and SIP entity  RAISE
 #Feb 09 12:00:24 informational EVENT   Connection fails
between system and SIP entity  CLEAR
```

## Possible Causes

- Call server which is configured by iBG2016 gateway system is not running.
- Call server network is unreachable from iBG2016 gateway system.
- In the call server configured by iBG2016, this iBG2016 is not configured or configured with invalid data.

## Troubleshooting

1. Verify configured call server system is running.

2. Verify your network is alive inter iBG2016 gateway and call server system.

3. Verify your iBG2016 is configured in call server system.
   HMSGUI → configuration →iBG2016.


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# Gatekeeper connection fail alarm

This is an alarm created when the communication with H.323 Gatekeeper through RegistrationRequest(RRQ) message is failed.

## Symptoms

On the iBG2016 system, following event will be occurred.

```
#Feb 09 12:00:33 critical      EVENT   Connection fails
between H.323 entity  RAISE
 #Feb 09 12:00:36 informational EVENT   Connection fails
between H.323 entity  CLEAR
```

## Possible Causes

- Gatekeeper which is configured by iBG2016 gateway system is not running.
- Gatekeeper network is unreachable from iBG2016 gateway system.
- In the gatekeeper configured by iBG2016, this iBG2016 is not configured or configured with invalid data.

## Troubleshooting

1. Verify configured gatekeeper is running.
2. Verify your network is alive inter iBG2016 gateway and gatekeeper.
3. Verify your iBG2016 is configured in gatekeeper. (refer your gatekeeper system manual)

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# FXO connect alarm

This is an alarm to notify whether ports are connected or not in analog channels of FXO card using loop start.

## Symptoms

On the iBG2016 system, following event will be occurred.

```
#Feb 09 12:00:39 error        EVENT     Notify that FXO port
is connected when using Loop-start only  RAISE
 #Feb 09 12:00:42 informational EVENT     Notify that FXO
port is connected when using Loop-start only  CLEAR
```

## Possible Causes

- The physical port connected to FXO is removed.
- The FXS port that connected at opposite side is removed.

## Troubleshooting

1. Check the line of port is inserted correctly.
2. check it is inserted that is connected at remote FXS port.


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# DSP fail fault

This fault occurs when there is an error in the process of initializing the DSP card, it might occur in the initiation of the system. When a fault occurs the system cannot be used as voice gateway. When the iBG2016 system fails to initialize DSP chipset, you have to reboot the system.

## Symptoms

On the iBG2016 system, following event will be occurred.

```
#Feb 09 12:00:47 emergency    EVENT     DSP module
initialization fails  RAISE
```

## Possible Causes

The iBG2016 system fails to initialize DSP chipset.

## Troubleshooting

Reboot iBG2016 system fater removing DSP chipset from slot 0 MPU_A.

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Ubigate iBG2016™

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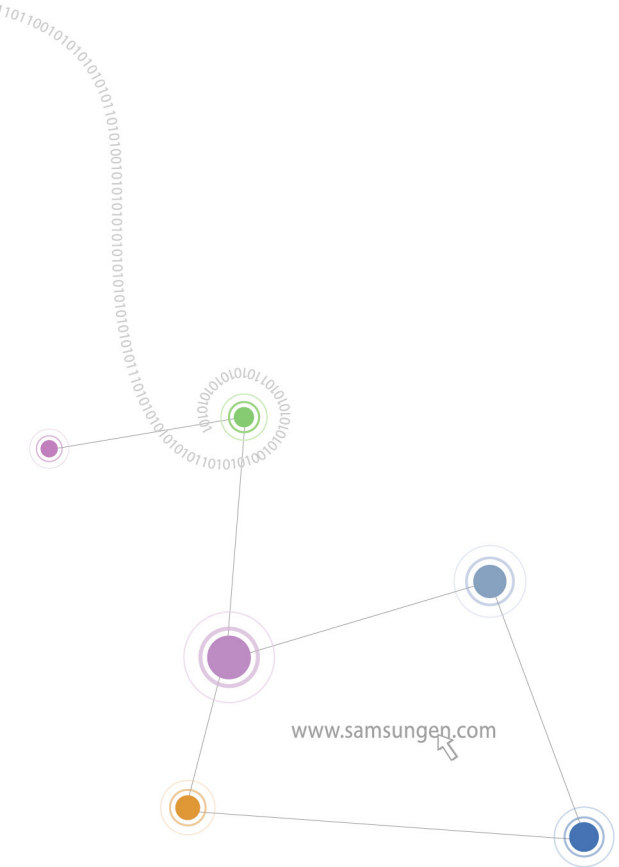


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